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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/724,604 | 12/02/2003 | Masahiro Inoue | Q78683 | 2598 |
| 23373 | 7590 | 05/04/2005 | EXAMINER | |
| SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037 | | | LAI, ANNE VIET NGA | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2636 | |

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

(X)

| | | | |
|------------------------------|-------------------------------|---------------------------------|--|
| Office Action Summary | Application No. 10/724,604 | Applicant(s) INOUE, MASAHIRO | |
| | Examiner Anne V. Lai | Art Unit 2636 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 8-14 is/are rejected.
- 7) ☒ Claim(s) 5-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by **O'Tool et al** [US. 6,130,602].

In claim 1, **O'Tool et al** disclose an on-vehicle short range communication (DSRC) apparatus in an intelligent transport system (electronic toll collections systems, col. 114, lines 5-67) comprising (figs. 3-5): a radio unit (14, 30, 32, 44, 46) for performing communication with an on-road radio equipment; data processing unit 16 or processing data received from a the radio unit; a battery 18; and a first power switch 42 (fig. 5) inserted in a power supply line extending between the battery in one hand and the radio unit and the data processing unit on the other hand , the first power switch is imparted with function for effectuating a power save for control for the power supply from the battery so that electric energy of said battery can be saved (col. 43, line 12).

In claim 2, the DSRC apparatus further comprising: a first timer 36 (wake up timer; fig. 5) for driving intermittently the first power switch, wherein said first power switch is intermittently supply the electric power to the radio unit and the data processing unit from the battery.

In claim 3, the DSRC apparatus further comprising: a first switch control unit

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(wake up logic 42) provided in association with the first timer for controlling the first power switch to change over between a continuous power supply mode and the intermittently driven mode in response to an output signal of the data processing unit (col. 43, line 10 through col. 44, line 13).

In claim 4, the DSRC apparatus further comprising: an electric field intensity detecting circuit for detecting a field intensity of radio wave transmitted from the on-road radio equipment (determine if there is a radio frequency present; col. 43, lines 30-32); and an activating circuit for activating said first power switch when a detection output of said electric field intensity detecting circuit becomes higher than a predetermined level (processor on mode; col. 44, lines 5-14).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Tool et al** in view of **Froschermeier** [US. 5,525,992].

In claims 8 and 9, **O'Tool et al** fail to disclose a power switch on output side of the battery and a manipulation unit to manually turning on/off the switch;

Froschermeier teaches an on-vehicle DSRC apparatus 14 in an intelligent transport system (fig. 3) comprising a first power switch (78, fig. 5; col. 9, lines 1-8) for effectuating a power saver to the battery and further comprising another power switch

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(third) for manually overriding the power saving feature (col. 11, lines 62-67). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to implement a manual control switch for the convenient of the user to override at will the power saving feature.

In claim 10, **O'Tool et al** disclose the apparatus further comprise a voltage lowering detection unit and generating a low battery signal if the voltage of the battery is lower than a predetermined voltage (col. 21, lines 46-53).

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Tool et al** in view of **Burgess** [US. 6,031,465].

In claim 11, **O'Tool et al** fail to disclose a vibration detecting switch control unit for turning on/off the other power switch. **Burgess** teaches an on-vehicle DSRC apparatus with power saving feature comprising a vibration detecting switch control unit to power on/off when the vibration is at a predetermined level (col. 5, lines 21-51). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to implement the vibration detecting switch control unit to the apparatus of **O'Tool et al** to provide addition power saving to the battery of the apparatus.

6. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Tool et al** in view of **Tuttle** [US. 5,300,875].

In claims 12 and 13, **O'Tool et al** fail to disclose a solar battery and an external power source; **Tuttle** teaches an on-vehicle DSRC apparatus with power saving further comprising solar battery charging or external power source backup (fig. 12; col. 21, lines

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8-14). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to implement the solar battery or external power source connection to the apparatus of **O'Tool et al** to provide power backup to the apparatus when main battery power is low, therefore increase communication reliability.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Tool et al** in view of **Bickley et al** [US. 5,430,441].

In claim 14, **O'Tool et al** fail to disclose a connector to allow the battery to be removable. **Bickley et al** teach a transponder for vehicle identification (short range is inherent) comprising a connector structured to allow the battery to be removable. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to implement a connecting structure for the battery as taught by **Bickley et al** to **O'Tool et al** apparatus as designer choice to provide cost saving to the user.

Allowable Subject Matter

8. Claims 5-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Woolley et al disclose managing asset with active electronic tags. [US. 5,774,876]

Sharpe et al disclose multi-stage transponder wake-up. [US. 5,471,212]

Yoshida et al disclose a car electronic control system. [US. RE38,338]

Friedman et al disclose an active RF tag with wake-up circuit to prolong battery life. [US. 6,593,845]

Shloss et al disclose reducing power consumption in a radio telecommunication apparatus. [US. 5,425,032]

Sato et al disclose a TDMA network and protocol for reader-transponder communications. [US. 5,203,020]

Tuttle J discloses a passive recharging of secondary battery in RFID transponder. [US. 5,300,875]

Tuttle et al disclose an enclosed transceiver with wake-up circuit. [US. 5,448,110]

Tuttle M discloses an RFID device with switch to disconnect battery from circuit. [US. 6,380,845]

Inoue discloses a DSRC on-vehicle device. [US. 6,166,649]

Inoue discloses a DSRC car mounted equipment. [US. 6,181,023]

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne V. Lai whose telephone number is 571-272-2974. The examiner can normally be reached on 8:00 am to 5:30 pm, Monday to Thursday.

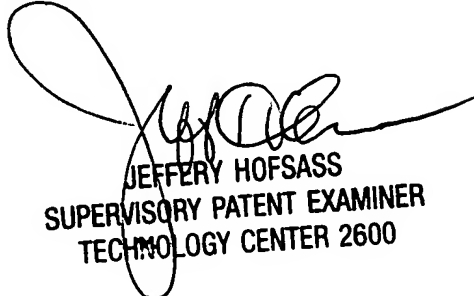
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hofsass Jeffery can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ML

A. V. Lai
April 22, 2005


JEFFERY HOFSSASS
SUPERVISORY PATENT EXAMINER
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